

Amendments to the Claims

The enclosed is responsive to the Office Action mailed on June 25, 2007. At the time the Office Action was mailed claims 9-14, 18-21, and 56-58 were pending. By way of the present response Applicant has: 1) amended claims 9, 18, and 56; 2) added claims 59-67; and 3) canceled no claims. As such, claims 9-14, 18-21, and 56-67 are now pending. A listing of claims follows:

In the Claims

- 1-8. Canceled.
9. (Currently Amended) A method for a network element comprising:
 - maintaining, for network layer switched routes, interface structures each storing a set of network layer information;
 - distributing each of the interface structures to a set of one or more of a plurality of routing protocol modules;
 - maintaining a routing information base responsive to the plurality of routing protocol modules;
 - distributing forwarding information bases including network layer information to each of a plurality of line cards;
 - maintaining for each label switched path (LSP) a forwarding data structure that is separate from the interface structures and that does not include the set of network layer information; and
 - selectively distributing different ones of the forwarding data structures to different ones of the plurality of line cards to establish label forwarding information bases devoid of network layer information,

said selectively distributing being done and said label forwarding information bases being created apart from distribution distributing to the plurality of routing protocol modules and the routing information base a subset of the forwarding data structures, wherein the selective distribution of a particular forwarding data structure to a particular line card is based on an ingress and an egress line card associated with the LSP represented by the particular forwarding data structure.

10. (Original) The method of claim 9 wherein the forwarding data structure includes a first field to indicate a port, a second field to indicate a slot, and a third field to indicate a flow.

11. (Original) The method of claim 10 wherein the port is a virtual port and the slot is a virtual slot.

12. (Original) The method of claim 9 further comprising maintaining for each forwarding structure, a data structure that indicates an egress slot and encapsulation information.

13. (Original) The method of claim 12 wherein the data structure further indicates an egress port.

14. (Original) The method of claim 12 further comprising distributing the egress slot and encapsulation information from different ones of the data

structures to different ones of the line cards apart from distribution to the plurality of routing protocol modules and the routing information base.

15-17. Canceled.

18. (Currently Amended) A network element comprising:

- a plurality of line cards;

- a control card having stored therein,

- a plurality of interface structures having stored therein network layer information;

- a plurality of routing protocol modules coupled to one or more of the plurality of interface structures;

- a routing information base coupled to said plurality of routing protocol modules;

- a plurality of forwarding data structures devoid of network layer information separate from the interface data structures, the plurality of forwarding data structures each having stored therein information to determine forwarding of packets from an ingress one of said plurality of line cards to an egress one of said plurality of line cards, wherein a set of one or more of said plurality of forwarding data structures include data indicating that they represent a label switched path;

- a label manager to selectively distribute different ones of the forwarding data structures to different ones of the plurality of line cards and to selectively distribute a subset of the plurality of forwarding data structures to the plurality of routing protocol modules, wherein the selective distribution of a particular forwarding data structure to a particular line card is based on an ingress and an

egress line card associated with the label switched path represented by the particular forwarding data structure;

a first of said plurality of line cards having stored therein,

a label forwarding information base generated from at least certain of said plurality of forwarding data structures indicating that they represent label switched paths, the label forwarding information base being devoid of network layer information; and

a network layer forwarding information base generated from said routing information base.

19. (Original) The network element of claim 18 wherein said information includes a slot identifier, a port identifier, and a flow identifier.

20. (Original) The network element of claim 19 wherein the slot identifier of each forwarding structure indicates the same virtual slot and the port identifier for each forwarding structure indicates the same virtual port.

21. (Original) The network element of claim 18 wherein the control card further has stored therein a plurality of data structures, different ones of the plurality of data structures indicating different ones of said plurality of forwarding structures, egress slots, and encapsulation information.

22-55. Canceled.

56. (Currently Amended) A machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:

- maintaining in a control plane a first data structure that represents a label switched path (LSP), the first data structure indicating a virtual port, a virtual slot, and an identifier to distinguish LSPs of the virtual port and the virtual slot;
- maintaining in the control plane a second data structure indicating the first data structure, a slot, encapsulation information, and an index for the slot and the encapsulation information;
- selectively distributing the first data structure, the index, and ~~the an~~ egress to certain of a set of one or more label forwarding information bases (LFIBS) in a data plane, the LFIBS being devoid of network layer information, and selectively distributing the first data structure, the index, and the egress to one or more routing protocol modules in the control plane, wherein the selective distribution to the LFIBS is based on an ingress and an egress line card associated with the LSP;
- distributing the index and the encapsulation information to certain of a set of data structures within the data plane.

57. (Original) The machine-readable medium of claim 56 wherein the second data structure further indicates a port.

58. (Original) The machine-readable medium of claim 56 wherein the encapsulation information includes an egress label.

59. (New) A machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:

- maintaining, for network layer switched routes, interface structures each storing a set of network layer information;
- distributing each of the interface structures to a set of one or more of a plurality of routing protocol modules;
- maintaining a routing information base responsive to the plurality of routing protocol modules;
- distributing forwarding information bases including network layer information to each of a plurality of line cards;
- maintaining for each label switched path (LSP) a forwarding data structure that is separate from the interface structures and that does not include the set of network layer information; and
- selectively distributing different ones of the forwarding data structures to different ones of the plurality of line cards to establish label forwarding information bases devoid of network layer information, said selectively distributing being done and said label forwarding information bases being created apart from distributing to the plurality of routing protocol modules and the routing information base a subset of the forwarding data structures, wherein the selective distribution of a particular forwarding data structure to a

particular line card is based on an ingress and an egress line card associated with the LSP represented by the particular forwarding data structure.

60. (New) The machine-readable medium of claim 59 wherein the forwarding data structure includes a first field to indicate a port, a second field to indicate a slot, and a third field to indicate a flow.

61. (New) The machine-readable medium of claim 60 wherein the port is a virtual port and the slot is a virtual slot.

62. (New) The machine-readable medium of claim 59 further comprising maintaining for each forwarding structure, a data structure that indicates an egress slot and encapsulation information.

63. (New) The machine-readable medium of claim 62 wherein the data structure further indicates an egress port.

64. (New) The machine-readable medium of claim 62 further comprising distributing the egress slot and encapsulation information from different ones of the data structures to different ones of the line cards apart from distribution to the plurality of routing protocol modules and the routing information base.

65. (New) A method for a network element comprising:
maintaining in a control plane a first data structure that represents a label switched path (LSP), the first data structure indicating a virtual port,

a virtual slot, and an identifier to distinguish LSPs of the virtual port and the virtual slot;

maintaining in the control plane a second data structure indicating the first data structure, a slot, encapsulation information, and an index for the slot and the encapsulation information;

selectively distributing the first data structure, the index, and an egress to certain of a set of one or more label forwarding information bases (LFIBS) in a data plane, the LFIBS being devoid of network layer information, and selectively distributing the first data structure, the index, and the egress to one or more routing protocol modules in the control plane, wherein the selective distribution to the LFIBS is based on an ingress and an egress line card associated with the LSP;

distributing the index and the encapsulation information to certain of a set of data structures within the data plane.

66. (New) The method of claim 65 wherein the second data structure further indicates a port.

67. (New) The method of claim 65 wherein the encapsulation information includes an egress label.